



# Natural Resource Year in Review–2003

A portrait of the year in natural resource stewardship and science in the National Park System



Restoration

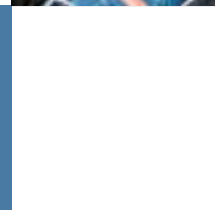


Transforming  
the National  
Park System

The New Face  
of Professional  
Resource  
Management



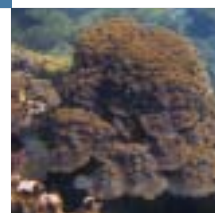
Cooperative  
Conservation



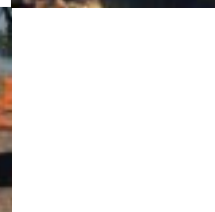
Inventory and  
Monitoring  
Charges Ahead



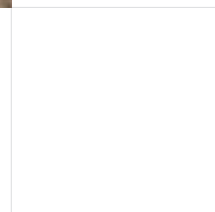
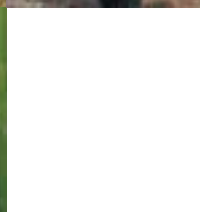
Conserving  
Threatened  
and  
Endangered  
Species



Preventing  
Natural  
Resource  
Impairment



Frontiers for  
Science  
and Natural  
Resource  
Education



*“Despite changes in economic status, political upheaval, social injustices, or disasters, the national parks are always available to serve as actual or potential refuges. The parks are traditionally ‘American,’ are always welcoming, and serve as symbols of all that we value.”*

—Paul G. Risser  
*Science and Ecosystem Management in the National Parks*

#### ON THE COVER

The people depicted represent the multitude of professional natural resource managers and scientists who are helping to maintain nature in the national parks. The National Park Service is benefiting from recent funding from the Natural Resource Challenge to professionalize the natural resource management workforce and to increase the number of scientists doing research in the national parks. In this issue we celebrate their many invaluable contributions.

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**Natural Resource Information Division**

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Federally listed as endangered, the nene or Hawaiian goose (*Nesochen sandvicensis*) is resident in Hawaii Volcanoes and Haleakala National Parks, Hawaii. To protect the species, staff at the parks control nonnative predators, monitor nesting, and research species nutritional requirements. An update on threatened and endangered species in the national parks is featured on pages 80–93.



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# The Year 2003 in Review

Associate Director Soukup (middle row, second from right) and senior staff of the Natural Resource Stewardship and Science (NRSS) Directorate convened in Zion National Park, Utah, in summer 2003 where Water Resources Division chief Dan Kimball (in uniform) was serving as acting park superintendent. The senior staff are (front row, left to right): Jake Hoogland (chief, Environmental Quality Division), Chris Shaver (chief, Air Resources Division), Dan Kimball; (middle row, left to right): Chuck Pettee (acting chief, Water Resources Division), Rich Gregory (chief, Natural Resource Information Division), Mike Soukup, Dave Shaver (chief, Geologic Resources Division); (back row, left to right): Loyal Mehrhoff (chief, Biological Resource Management Division), Abby Miller (deputy associate director, NRSS), and James Gramann (visiting chief social scientist).



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## National parks: A legacy of intergenerational commitment

by Michael Soukup

*“[National] parklands are more than physical resources. They are the delicate strands of nature and culture that bond generation to generation.”*

—George B. Hartzog, Jr.  
*Battling for the National Parks*

**NATIONAL PARKS** are intergenerational commitments for the common good, with each generation conserving these magnificent places through restraints placed on their uses. This ethic of stewardship depends upon each generation developing a meaningful relationship with parks that translates to public support. Only with support for a commitment to parks will the character of our nation’s most important places remain *intact* and the visitors’ experience of our nation’s

heritage remain undiminished. This commitment can never be broken if our natural and cultural heritage is to be preserved for our citizens to enjoy for all time. Nothing less will pass the parks along unimpaired. Each *Year in Review* documents the year’s events, the National Park Service’s achievements and setbacks, and their effect on this commitment.

Although not the primary reason why national parks are set aside, economics reflects the wisdom of national park creation and preservation. Public investment in the National Park System produces significant economic benefits for neighboring communities and surrounding regions. In 2001, the latest year for which figures are available, this investment totaled \$1.8 billion, including congressional appropriations for operation of the National Park System, construction, the U.S. Park Police, and one-half of the land acquisition budget. According to studies conducted this year by Michigan State University for the National Park Service, the return on this investment from



visitor spending within a day's travel of parks amounted to \$10.6 billion, a yield of more than 400%.

A very positive event this year was the convening of a science committee in January by the National Park System Advisory Board. Director Mainella asked this committee to evaluate the Natural Resource Challenge and make recommendations on the future of science in national parks. The interest, time commitment, and dedication of Drs. Sylvia Earle (National Geographic Society), Shirley Malcolm (American Association for the Advancement of Science), Peter Raven (Missouri Botanical Garden), E. O. Wilson (Harvard University), Gary Paul Nabhan (Northern Arizona University), and Larry Madin (Woods Hole Oceanographic Institution) were positive demonstrations that top scientists strongly believe that national parks have an important role to play in the future environmental health of the nation, and perhaps the planet. Their report, formulated with the benefit of the land manager perspective from former Superintendent (and now Board Member) Bob Chandler, is forthcoming in spring 2004 and is something to look forward to.

An event that stands out for me this year occurred at the George Wright Society's biennial meeting in San Diego. Alan Latourelle (CEO of Parks Canada) discussed his country's plan for doubling the size of their National Park System. He said that his generation of Canadians may be the last who would be able to make a commitment to fashion a national park system that fully represents their nation's natural heritage. That reality should raise a question for us: Is our National Park System fully representative of our national heritage? If not, is there time and will to act?

At this meeting and also at the World Parks Congress in Durban, South Africa (in August)—the congress in itself is an event of the decade—the three directors of the North American park systems met to discuss common issues and new ways of working together.

Whereas the calendar year began with a substantial investment of new funding from the Natural Resource Challenge, it closed with economic, security, and other national concerns, reducing *slightly* in the FY 2004 budget the priority previously accorded this initiative. We have had great success in the last few years in tackling these problems through a number of programs collectively called the Natural Resource Challenge. The Challenge has provided science for parks. It also has provided for "parks for science" programs (research learning centers, Sabbaticals in the Parks, Internet-based research permit applications) that make parks better places for the pursuit of science. Many new Challenge-funded programs are blossoming into institutions that are transforming the National Park Service and the national parks (see page 15), including Exotic Plant Management Teams, research learning centers, Cooperative Ecosystem Studies Units, and others. However, the most critical Challenge element will be the system of 32 networks of park units that will constitute the first cohesive effort to measure management performance in protecting park resources. Of the eight monitoring networks proposed for funding in FY 2004, three networks—the Arctic, Southeast Coast, and Upper Columbia Basin Networks, serving 30 parks—were left unfunded (leaving a total of 10 unfunded networks) (see map, page 34). So far only about 70% of the critical Natural Resource Challenge information infrastructure (i.e., monitoring networks) is funded after five years, the original target


completion date of the Challenge. Law enforcement, U.S. border safety issues, and maintenance of park buildings and roads are competing and pressing priorities.

While it is easy to demonstrate that park facilities require billions of dollars to maintain, the urgency of investment needs and immediately tangible outcomes for natural resources is more difficult to appreciate. When landscapes were less dominated by human activities, less investment may have been necessary. However, today's parks must be actively managed to control the influx of nonnative plants and animals, the incursion of polluted air and water, and the loss of species as parks become isolated islands of habitat. For these reasons active investment in scientists and project support will be necessary to maintain the nation's commitment to its heritage.

Our national parks saw a number of very positive events in 2003, many of which are reported here in the *Year in Review*. They include the breeding success of California condors in Grand Canyon National Park (see page 83), the recovery of nesting waterbirds since the removal of black rats from Anacapa Island (Channel Islands National Park; see page 74), and the dedication of the new research learning center at Rocky Mountain National Park (see page 22).

Other events for 2003 have potentially important, but not as promising, implications for the future of national parks. These include the well-publicized grizzly bear attack on two frequent park visitors at Katmai National Park, numerous outbreaks of fire in natural areas that have been managed unwisely for decades (to suppress the natural fires), increased national needs for power plant construction, and the growing water quantity crisis in the West. A graphic illustration of resource management problems that require hands-on management in parks—in this case the need to manage the invasion of exotic species—was the 24-hour-long struggle between a 12-foot Burmese python (pictured on the cover) and a native alligator witnessed by many visitors to Everglades National Park. The presence of Burmese pythons (which are now apparently breeding in the Everglades) is a striking example of the changes being effected in parks by human activities. What changes will this invasive species make in the system and how will native species be affected?

Although the FY 2004 budget produced a range of events and consequences, annual budget increases over the past several years and the momentum they have built for on-the-ground stewardship efforts in parks, especially progress toward vital signs monitoring in the funded networks and in many restoration activities that reclaimed lost ground, were cause for overall optimism. ■



Mike Soukup

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# Year at a Glance—2003

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## january

The Natural Resource Information Division launches the intranet site for NPS research and learning centers at [http://www1.nrintra.nps.gov/learning\\_centers](http://www1.nrintra.nps.gov/learning_centers).

More than 60 park managers and resource specialists from western parks gather in Phoenix for the first NPS Western Energy Summit to discuss energy development planned near parks (see page 64).

Superintendents and staffs from 17 U.S. and 9 Canadian national parks designated as world heritage sites meet to begin a process of reporting on their participation in the World Heritage program and the condition of the sites they manage.

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## february

Director Mainella cuts the symbolic “last” melaleuca tree, an invasive species, in Big Cypress National Preserve, Florida (see page 15).

The Secretary of the Interior announces that regulations and general management plans for the protection of the new Virgin Islands Coral Reef National Monument and expanded Buck Island Reef National Monument will go forward (see page 53).

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## march

Director Mainella announces the winners of the 2002 Director’s Awards for Natural Resource Management.

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## april

The National Park Service, Bureau of Reclamation, and U.S. Fish and Wildlife Service enter into an agreement with the Colorado Water Conservation Board to resolve water rights issues affecting Black Canyon of the Gunnison National Park.

The Environmental Protection Agency announces a legal settlement with Virginia Electric and Power Company that will benefit air quality in Shenandoah National Park and the entire Mid-Atlantic region by 2015.

The final Clean Water Act permit for the Washington Aqueduct is issued and will result in significant reductions in discharged sediments and other pollutants, thereby protecting resources of the Chesapeake and Ohio Canal National Historical Park and the aquatic resources of the Potomac River (see page 70).

The NPS Fire Program, the Biological Resource Management Division, and the Colorado Plateau Cooperative Ecosystem Studies Unit sponsor a workshop for parks in the Intermountain Region on integrating fire planning with the planning and management of natural and cultural resources.

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## may

Staff install new meteorological monitoring stations that employ “portable ozone monitors” at Lake Mead National Recreation Area, Nevada and Arizona.

The Ecological Society of America, National Park Foundation, and National Park Service announce the National Parks Ecological Research Fellowship Program for FY 2003 through which three postdoctoral research fellowships, funded by the Andrew W. Mellon Foundation, will be awarded for research on the flora of national parks.

Park and regional staffs meet in Denver to begin testing the Planning, Environment, and Public Comment (PEPC) tracking system, a Web-based application that facilitates public review of environmental park planning documents (see page 96).

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## june

The third national meeting of the Cooperative Ecosystem Studies Units (CESU) Network is held in Washington, D.C., giving representatives from CESU-affiliated universities and other institutions opportunities to share their expertise and capacities with federal managers and decision makers (see page 24).

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## july

The Natural Resource Laureate Program gets under way with the selection of six parks to receive natural resource project assistance from volunteers with the Environmental Alliance for Senior Involvement who have a high level of technical natural resource expertise (see page 100).

The Natural Sounds Program Office, the Federal Aviation Administration, and the Department of Transportation Volpe Transportation Center initiate new air tour management plans in Yellowstone National Park, Wyoming; Glen Canyon National Recreation Area, Utah; and Navajo and Canyon de Chelly National Monuments, Arizona (see page 68).

The Biological Resource Management Division publishes a scientific assessment of the management of microbes in the context of the NPS mission, addressing such issues as the feasibility of determining the status (native or exotic) of microbes and identifying the multitude of processes involving them in the national parks.

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## september

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A consortium of environmental organizations files suit in federal court against the Secretary of the Interior and the Director of the National Park Service challenging the legality of the April Black Canyon settlement agreement.

Director Mainella signs Director's Order 77-2 regarding the management of floodplains in parks, including development that could adversely affect natural resources and the functions of floodplains.

Judge William Hoeveler, the judge originally presiding over the settlement of the 1988 Everglades water quality lawsuit, is removed from the suit in response to a motion by the sugar industry concerning his remarks to the press and potential bias.

The National Park Service receives a settlement of \$132,000 for the restoration of 2,691 square feet (250 sq m) of sea grass damaged by a vessel grounding near Crane Key in Everglades National Park, Florida.

The Continental Divide Research Learning Center inaugurates its year-round residential campus at the historic McGraw Ranch in Rocky Mountain National Park, Colorado (see page 22).

The National Park Service and the Republic of Gabon in western Africa sign a memorandum of understanding (MOU) recognizing their mutual interest in establishing and managing national parks and protected areas for the purpose of preservation, recreation, public education, and ecotourism. The National Park Service will provide technical assistance for park planning, general management and business plans, and possibly training in law enforcement, visitor services, and tourism. This MOU formalizes an opportunity for the National Park Service to assist in the preservation of the world's largest remaining tropical forest, which is five times larger than that of Costa Rica.

The report "Shoreline Trash: Studies at Padre Island National Seashore, 1989-1998" is released and documents the most extensive trash monitoring study of its type initiated in the United States. Results indicate that international regulations governing the dumping of plastics in the ocean have not reduced the amount of plastics that wash ashore at Padre Island National Seashore, Texas. The study also shows that the majority of the Padre Island trash originates from the Gulf of Mexico shrimp industry. Park staff have begun working with the shrimp industry to develop better technology, storage systems, and an education program to keep trash out of the Gulf of Mexico.



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## october

Judge Federico Moreno (Judge Hoeveler's replacement) appoints a Special Master, John Barkett, to help him oversee the settlement of the 1988 Everglades water quality lawsuit.

Canon U.S.A., Inc., announces selection of its 2003 National Parks Science Scholars: eight Ph.D. students studying in the United States, Argentina, Brazil, Canada, Mexico, and Peru.

The U.S. Animal Health Association approves the National Park Service as an official member, which is of particular importance because of the continued expansion of the park wildlife-livestock interface and potential for disease transmission.

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## november

The first wild-born California condor since 1984 fledges from its cliff nest at Grand Canyon National Park, Arizona (see page 83).

Staffs in Cuyahoga Valley National Park (Ohio), Catoctin Mountain Park (Maryland), and the Environmental Quality Division begin drafting an environmental impact statement for deer management that will serve as a template for other parks.

The U.S. Army Corps of Engineers fills a breach in the barrier island at Cape Hatteras National Seashore, North Carolina, caused by Hurricane Isabel, and transportation to Hatteras Village is restored (see page 78).

Managers of the Longview Power Plant, in West Virginia, agree to obtain additional emission allowances under the Acid Rain Program to offset its increase in actual emissions that would affect Shenandoah National Park, Virginia.

Associate Director Soukup issues final guidance to parks on implementing the directional drilling provision of the NPS nonfederal oil and gas regulations at 36 CFR 9B.

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## december

The State of Colorado files for in-stream flow protection of a reach of the Gunnison River that flows through Black Canyon of the Gunnison National Park, which will complete an obligation made by the Colorado Water Conservation Board in April.

Biologists release two captive-bred California condors from an acclimatization pen at Pinnacles National Monument, California (see page 84).

Cascade Dam, an obsolete hydroelectric power facility on the Merced River in Yosemite Valley, is demolished and removed from Yosemite National Park, California.

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